

1310.23 Electronic Data Interchange (EDI) Standard

Issued: January 6, 1997

SUBJECT: Electronic Data Interchange (EDI) Standard.

APPLICATION: Executive Branch Departments and Sub-units.

PURPOSE: To adopt the family of standards known as X12 and EDIFACT as the Electronic Data Interchange (EDI) standard.

CONTACT AGENCY: Department of Information Technology (DIT)
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SUMMARY: The X12 and EDIFACT models have been adopted to achieve the benefits of EDI including:

- reduced paperwork, fewer transcription errors, faster response time for procurement and customer needs, reduced inventory requirements, and more timely payment of vendors;
- standard data formats and transmission envelopes to ease the interchange of data sent via EDI;
- preventing duplication of effort in the implementation of EDI
- minimum impact on existing applications and easy transition to EDI Standards.

PROCEDURES:

General Information:

- This publication announces the adoption of recognized national and international standards for EDI as a State information technology standard. In EDI, data that would be traditionally conveyed on paper documents are transmitted or communicated electronically according to established rules and formats. The data that are associated with each type of functional document, such as a purchase order or invoice, are transmitted together as an electronic message. The formatted data may be transmitted from originator to recipient via telecommunications or physically transported on electronic storage media.
- EDI implies a sequence of messages between two parties, for example, buyer and seller, either of whom may serve as originator or recipient. Messages from buyer to seller could include, for example, the data necessary for request for quotation (RFQ), purchase order, receiving advice, and payment advice; messages from seller to buyer could similarly include the data for response to RFQs, purchase order acknowledgments, shipping notices, and invoices. Implementation of EDI requires the use of a family of interrelated standards. The family must include standards for types of messages (also called "transaction sets"), and for transmission envelopes, data elements, and short sequences

of data elements called data segments. A message or transaction set standard defines the sequence of data segments that constitute that message or transaction set. The data segment directory lists all data segments, and defines the identifier and sequence of data elements constituting each. The data element dictionary provides the specifications of all data elements. Transmission envelopes provide control information about the included messages to the carrying and receiving systems. The standardization of message formats, and of data segments and elements within the messages, makes possible the assembling, disassembling, and processing of the messages by computer with predictable results.

- This State policy adopts, with specific conditions, the families of standards known as X12 and EDIFACT. This State policy does not mandate the implementation of EDI systems within the State Government; rather it requires the use of X12 or EDIFACT, subject to the conditions specified below, when State departments implement EDI systems. The X12 and EDIFACT standards have been developed respectively by Accredited Standards Committee X12 on Electronic Data Interchange (ASC X12), accredited by the American National Standards Institute, and by the United Nations Economic Commission for Europe Working Party (Four) on Facilitation of International Trade Procedures (UN/ECE/WP.4). Technical input from the United States in the development of EDIFACT is through the North American EDIFACT Board (NAEB) which is a standing task group of ASC X12.

Applicability:

- Conditions of Application.
 - This standard is applicable to the interchange of data between a State operating unit and another organization (which may be another State operating unit), if (1) the data is to be transmitted electronically, and (2) X12 transaction sets or EDIFACT messages meeting the data requirements of the State operating unit for the data to be interchanged have been developed and approved under the conditions set forth by this State policy.
- Subject Matter.
 - Primary applicability of this State policy on EDI is to business information exchanged by trading partners with extensions to government concerns. Business information encompasses the entire range of information associated with commercial, financial, health care, industrial transactions, and with office supplies. Examples of applications (not necessarily the subject of current standards) are:
 - *vendor search and selection*: price/sales catalogs, bids, proposals, requests for quotations, notices of contract solicitation, data, trading partner profiles;
 - *contract award*: notices of award, purchase orders, purchase order acknowledgments, purchase order changes;
 - *product data*: specifications, manufacturing instructions, reports of test results, safety data;
 - *shipping, forwarding, and receiving*: shipping manifests, bills of lading, shipping status reports, receiving reports;

- *payment information*: invoices, remittance advises, payment status inquiries, payment acknowledgments;
- *inventory control*: stock level reports, resupply requests, warehouse activity reports;
- *maintenance*: service schedules and activity, warranty data;
- *tax related data*: tax information and filings;
- *insurance-related data*: claims submitted/approved, mortgage insurance application.
- other government activities: communications license applications; hazardous waste report; court conviction record.

Additional Applicability:

- State OU's deciding to employ electronic interchange of data for which no X12 or EDIFACT Standards exist, shall submit their requirements for X12 or EDIFACT standardization. Submissions shall be directed to ASC X12 (contact Manager, Standards Maintenance, Data Interchange Standards Association, see Glossary for address and phone),

Specifications:

- Documents defining both the X12 and EDIFACT families of standards are available from the DIT, Bureau of Strategic Policy. Developments are continuing in both families of standards.

Implementation:

- Schedule for Adoption
 - This State policy is effective July 1, 1996. After that date, State Operating Units (OU) shall use these standards in EDI systems that they procure or develop. OU's already using those standards shall continue to do so.
- Continued Use of Industry Specific EDI Standards.
 - State operating units using industry-specific EDI standards on the effective date of this State policy may continue to use those standards for 5 years. However, such OU's shall, without delay, submit their standardization requirements to ASC as described above.
- Selection of X12 or EDIFACT.
 - X12 and EDIFACT are separate, although similar, families of standards. The existence of one does not preclude the other. However, in late 1992, ASC X12, by a vote of its membership, approved the following resolution:

"...X12 [shall] adopt a single EDI standard, which is EDIFACT, after the release of Version 4 of the X12 American National Standards, which is expected in 1997."

- In this interim period, State operating units may utilize X12 or EDIFACT standards. In selecting a family of standards, agencies should attempt to maximize economy and efficiency and to minimize the costs imposed on US businesses. Consistent with these two criteria, agencies may use either X12 or EDIFACT standards for domestic interchange but should use EDIFACT standards for international interchange where possible. A timetable for conversion of existing applications to EDIFACT should be set as applicable standards and software become available. Agencies may employ both families of standards where required to meet needs of trading partners and to be consistent with the two criteria.
- Security and Authentication.
 - OU's shall determine the appropriate mix of security controls needed to protect specific data and systems. The selection of controls shall take into account procedures required under applicable laws and regulations. Optional tools and techniques for implementation of security and authentication may be provided by ASC X12 and UN/ECE/WP.4 for use in connection with their respective families of standards. Agencies may utilize these tools and techniques, and/or they may utilize other methods in systems supporting the EDI data interchange. Methods and procedures implemented shall be consistent with State policy.
- Waivers.
 - Under certain exceptional circumstances, DIT, Bureau of Strategic Policy may approve waivers to State policy. Waivers shall be granted only when:
 - Compliance with a standard would adversely affect the accomplishment of the mission of a State OU, or
 - The conditions for meeting the standard cannot be met.
 - A copy of each request shall be sent to: DIT, Bureau of Strategic Policy.

Glossary:

ASC X12 - Accredited Standards Committee X12 Group. This group is accredited by ANSI and maintains and develops the EDI Standards for the United States.

ANSI - Acronym for the American National Standards Institute which is the national standards body for the United States. ANSI, defines, through its Accredited Standards Committees, all technology application standards for industry.

Application - A series of computer software programs that perform a particular function or group of functions, i.e., an Accounts Payable Application

Design Architecture - The approach upon which the construction of software is based. Often design architecture is directly related to the ability of software to achieve particular functionality or performance requirements.

DISA - The Data Interchange Standards Association. The Organization that acts the secretariat for ASC X12 and the Pan-American EDIFACT board in the United States. Their address is:

Date Interchange Standards Association Inc.
333 John Carlyle Street, Suite 600
Alexandria, VA 22314
Telephone (703) 548-7005 Fax (708) 548-5738.

DIT - State of Michigan, Department of Information Technology. The staff element of the State of Michigan that guides technological standards for state operating units (OU) within Michigan State Government.

EDI - Electronic Data Interchange. The application to application exchange of business information in a standard format.

EDIFACT - Electronic Data Interchange for Administration, Commerce, and Transport. The international EDI standard developed via the United Nations.

Electronic Commerce - The combination of EDI, E-Mail, and other electronic means by which companies communicate with their Trading Partners.

E-Mail - Electronic Mail. An Application that allows test messages to be addressed and communicated electronically. i.e. GroupWise.

Enterprise Systems - The combination of all the applications, computer, and data communications that support all the geographic and functional requirements of an organization.

ISO - International Standards Organization. The organization responsible for international data communications standards.

ODETTE - Organization for Data Exchange Through Teletransmission in Europe.

OU An Operating Unit within the Department of Information Technology. Previously known as Agency.

PAEB - Pan American EDIFACT Board primary function is to provide a forum for representation and consensus to the Pan American-designated rapporteur to the United Nations relative to UN/EDIFACT (international) standards development, maintenance, and promotion.

Segment - A grouping of data composed of elements, i.e., a data record.

SQL - Structured Query Language. A standard language used to request information inquires for a relational data base.

Trading Partners - Companies that do business with each other by sending and receiving EDI transactions.

TRADACOMS - Trading Data Communications Standards. An EDI standard used in Europe.

UN/ECE/WP.4 - United Nations - Electronic Commission for Europe - Working Party (Four) on Facilitation of International Trade Procedures, provides technical input from the United Nations.

VAN - Value Added Network.

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